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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1930

No. 630

DEFOREST RADIO COMPANY,
*Petitioner,*

*vs.*

GENERAL ELECTRIC COMPANY,
*Respondent.*

## BRIEF OF AMICI CURIAE

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New York, January 17, 1931.

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## BRIEF OF AMICI CURIAE.

### Introductory Statement.

Counsel appearing herein as *amici curiae* file this brief on behalf of The Chemical Foundation, Inc., a corporation of the State of Delaware; Radiological Society of North America, a corporation of the State of Illinois; Radiological Research Institute, Inc., a corporation of the State of Delaware, and the Federal Telegraph Company, a corporation of the State of California.

Each of these corporations has a grave responsibility to the public, which responsibility will be seriously affected if the decree of the court below is permitted to stand.

### Summary of Argument.

I. The question here brought to be reviewed is of great public interest. The parties upon whose behalf this brief

is filed have grave responsibilities to the public. The responsibility of each party will be affected seriously if the decree of the court below is permitted to stand. The influence will be general and country-wide.

II. The Circuit Court of Appeals for the Third Circuit in the instant case decided an important question of general law in conflict with the decisions of this Court.

(1) The findings of fact of the District Court were set aside by the Court of Appeals without regard to the practical rule that so far as the findings of fact of the judge who saw the witnesses "depends upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the finding, it must be treated as unassailable."

(*Davis* v. *Schwartz*, 155 U. S. 631 at 636;
*Adamson* v. *Gilliland*, 242 U. S. 350 at 353),

and this without assigning any reason therefor.

(2) The effect of the decision below is to hold as valid a patent that differs only in degree from the prior art.

## Argument.

I. The question here sought to be reviewed is of great public interest. The parties upon whose behalf this brief is filed have grave responsibilities to the public. The responsibility of each party will be affected seriously if the decree of the court below is permitted to stand. The influence will be general and country-wide.

The Chemical Foundation, Inc., is a non-profit-making holder of patents formerly under alien enemy ownership, that issues licenses to all responsible American manufac-

turers, at a reasonable royalty; all earnings in excess of the necessary expenses of administration being devoted to research and other works of public benefit. It is the owner of patents issued to J. E. Lilienfeld, No. 1,122,011, dated December 22, 1914, and No. 1,218,423, dated March 6, 1917. These patents cover X-ray tubes and processes for producing X-rays of predetermined hardness. The degree of vacuum shown in the Lilienfeld patents is the same as that claimed in the Langmuir patent in suit No. 1,558,436. The application date of the earliest Lilienfeld patent No. 1,122,011 is prior to the claimed date of conception of the Langmuir patent in suit.

J. E. Lilienfeld, the patentee named in the above-mentioned patents, is the same Lilienfeld referred to in the opinion of the District Court, adopted as the opinion of the Court of Appeals for the Third Circuit on the first hearing of this case, and in the dissenting opinion of Judge WOOLLEY, upon the re-hearing, as a prominent worker in the art, who had produced a non-gaseous, high vacuum tube prior to Langmuir.

The Chemical Foundation, Inc., is, by its charter and the circumstances of its creation, with which this Court is familiar (*United States* vs. *Chemical Foundation*, 272 U. S. 1), operated in the interests of the public. To the extent that this corporation owns patent rights that are or may be claimed to be within the monopoly of the Langmuir patent, it is affected by the decision in the instant case.

As the owner of the Lilienfeld patents on X-ray tube and process, it is desirous of licensing the public in accordance with its non-profit-making program of operation.

The Radiological Society of North America is an association of users of X-ray apparatus and the like in connection with the practice of medicine. It has been active

in attempts to improve the present X-ray tube trade conditions and to secure relief from the present burdensome monopolies on apparatus and supplies useful in the practice of medicine. It is composed of upwards of thirteen hundred leading members of the medical and teaching professions, users of X-ray and radiological appliances, each of whom will, under the decision and decree of the court below in the instant case, be subject to an extension of the burden of a monopoly already too heavy for the medical profession, and the public served thereby, to bear. It is a fact appearing in this record that the General Electric Company has already been enjoying patent protection on X-ray tubes since 1916, under the Coolidge X-ray tube patent, which protection will be extended for nearly ten years under the Langmuir patent, if the decree below is permitted to stand. It will be apparent that each member of the public treated by any appliances involving high vacuum tubes will be subject to the burden of this monopoly, although the General Electric Company has already reaped all the rewards to which it is entitled by virtue of any invention involved under the Coolidge patent. It is also to be noted that it appears in this record that the Coolidge invention was nothing more than the application of the high vacuum tube to the X-ray art.

The Radiological Research Institute is an association of workers interested in the development of X-ray tubes and kindred instrumentalities useful in the practice of medicine and is affiliated with the Radiological Society referred to, and is engaged in research directed toward obtaining relief from the monopoly of the General Electric Company in this field. The effect of the decree below is to permit the blanketing of all this work by a patent issued more than twelve years after the stated date of conception of the alleged invention.

In addition to the effect of the decree below upon the X-ray field, it has a serious and far-reaching effect upon the field of radio communication and the public served thereby, as will appear from the following:

This Court (*Westinghouse* v. *DeForest*, 278 U. S. 562) has held the DeForest patents, Nos. 1,507,016 and 1,507,017 to cover basic inventions of DeForest, and has thus made ownership of rights under these patents a necessary prerequisite to the manufacture of vacuum tube transmitting apparatus, which is essential in commercial radio transmission. It is impossible to compete commercially in the field of radio communication without operating rights under these patents.

The only person outside of the so-called Radio Corporation group (which includes the General Electric Company among others) and the Petitioner herein that owns rights under the DeForest patents is the Federal Telegraph Company. In fact, the rights owned by the Federal Telegraph Company under these DeForest patents are broader in scope than those held by any individual member of the Radio Corporation group and even broader than those held by the DeForest Company, the Petitioner herein. The Radio Corporation and the Federal Company are the only two persons holding rights under the DeForest patents in the field of radio telegraph communication for tolls.

It is, therefore, upon the Federal Telegraph Company that the hope of the public for a competitive system of radio communication rests and, in fact, it is due to the Federal Telegraph Company, and the rights that it holds under these DeForest patents, that the Radio Corporation is now subject to the competition of such a system. The rights of the Federal Telegraph Company are being exercised by it in the manufacture and sale of communication

material and by the purchaser of such material, The Mackay Radio and Telegraph Company, a controlled company of the International Telephone & Telegraph Corporation, in the operation of its radio system. The public is thus gravely interested in the perpetuation of the existing competitive conditions and therefore in the continued operation of the Federal Company and its customers.

The decision sought to be reviewed would have the effect of depriving the Federal Company and the users of its apparatus of the right to compete with, and of putting a monopoly on radio communication into the hands of, the owners of rights under the Langmuir patent—that is, in the hands of the General Electric Company and of its associated Companies, particularly The Radio Corporation of America.

It is concededly impossible to carry on modern radio communication without high vacuum tubes, and since the invention attributed to Langmuir by the Third Circuit Court of Appeals upon the re-hearing is held to be this precise thing without limitation, the entire art will be at the mercy of Langmuir's assignee. The effect of such action upon the Federal Telegraph Company and users of its communication apparatus and upon the other parties to this brief is clear, as is also the effect upon the field each of them serves.

Aside from its effect upon each of the parties to this brief, the effect of the decree below upon the public interest would be far-reaching. Not only would all commercial radio telegraphic communication be delivered into the hands of the Radio Corporation and the entire X-ray tube art be delivered into the hands of the General Electric Company, but in addition to this, and as stated below, large numbers of persons not directly affected by these considerations would feel the result of this decision.

The patent is held by the decree below to cover the so-called vacuum tube used in every radio broadcasting receiving set and in every apparatus for radio communication. The result of this decree would be to put into the hands of the Radio Corporation and its associates a complete monopoly over the vital part of all of such radio apparatus and permit it to exact tribute from almost every family in the United States.

Except upon the payment of burdensome royalties, no manufacturer could build tubes especially suited to his product, and all communication systems, such as those used on airplanes, ships and elsewhere, including those of the Army and Navy, would be subject to their domination.

The record of the decisions of the Courts below indicate that the question of the validity of the patent in suit is, to say the least, a doubtful one. The lack of agreement of the judges who have had the matter under consideration is the surest evidence of this fact. Judge Morris, who tried the case in the first instance and who had the benefit of hearing the record made, and whose peculiar qualifications to decide a case of this character need not be enlarged upon, held the patent to be invalid. Upon the first hearing by the Court of Appeals, Judges Woolley and Davis also held the patent to be invalid. After the re-hearing and about a year later, Judges Buffington and Davis held the patent to be valid, Judge Woolley dissenting and adhering to his previous opinion. It will thus be seen that of the four judges who have heard this case, two have now decided for the patent and two against it, and one of the three who had previously decided against the patent now decides for it.

In effect, this extremely important matter depends en-

tirely upon the change of mind of Judge DAVIS, who first held the patent to be invalid and now holds it to be valid. In this connection, the learned and exhaustive dissenting opinion of Judge WOOLLEY should be noted, particularly in view of the summary treatment the subject received at the hands of Judge BUFFINGTON speaking for the majority of the Court.

An additional reason for reviewing the decision of the Third Circuit Court of Appeals, were one necessary, is found in the fact that this decision fails to define the scope of the patent that it holds to be valid.

The decision of Judge BUFFINGTON held that the Langmuir invention is "a working tube in which all the elements, cathode, plate, vacuum, so co-ordinate and interwork that current flow is not affected by gas." He says: "Just what the degree of vacuum shall be is dependent on several elements and, as stated in the patent, cannot be exactly stated."

There is, therefore, no definition whatever of the *scope* of the patent. We believe the definition drafted by Judge BUFFINGTON is so broad that it could be read without difficulty whatever upon the prior art of record in this case.

In the year which intervened between the first decision of the Third Circuit Court of Appeals and the decision on the rehearing on November 11, 1930, a number of corporations have made large investments in the business of manufacturing radio tubes; apparatus has been designed and constructed to conform to certain tube constructions; contracts have been made for the manufacture and sale of apparatus, and many persons have taken positions from which they can withdraw only with serious loss. The present decision makes it impossible now for any of these manufacturers or users to know within what limits they may

manufacture and operate. Of course, as a matter of theory, the industry may use the tubes of the prior art; but practically, where the dividing line is to be drawn between the tubes of the prior art and the tube attributed to Langmuir by the Court of Appeals, the Court does not state and the entire industry is, therefore, left in the dark. The decision of the Court of Appeals produces a chaotic condition in which large investment is imperiled and an industry is hopelessly arrested in its operation and development because no manufacturer or user is advised of the limits within which he may legally operate.

**II. The Circuit Court of Appeals decided an important question of general law in conflict with the weight of the evidence.**

1. *The findings of fact of the District Court were set aside by the Court of Appeals without regard to the practical rule that so far as the findings of fact of the judge who saw the witnesses "depends upon conflicting testimony, or upon the credibility of witnesses, or so far as there is any testimony consistent with the finding, it must be treated as unassailable," and this without assigning any reason therefor.*

We wish to subscribe to all that is said in the brief of the Petitioner in this connection.

And we wish to add that under the cases in this Court on this point, it is, in our judgment, unthinkable that this decree, *which is the result of the wavering judgment of Judge Davis*, shall be allowed to pass without review, where Judge DAVIS has first affirmed Judge MORRIS and then reversed him in the latter instance, *withholding any comment on the facts, so carefully considered and so fully discussed in the District Court's opinion.*

The only effect of the re-hearing was to change the mind of Judge DAVIS. And he remains silent as to the reasons for the change. Certainly he could not say that the findings of Judge MORRIS were without any testimony to sustain them. The Petitioner's Brief is full of such testimony.

We submit that where, as in this case, the public is so largely affected, proper respect for the law is only attained by prompt review of the decision in question.

2. *The effect of the decision below is to hold valid a patent that differs only in degree from the prior art. This is plainly in conflict with the weight of authority.*

We subscribe to the statements of the law contained in Petitioner's Brief on this point.

The uncontradicted testimony of the record shows conclusively that the art fully appreciated the relation of vacuum and voltage of the external circuit and knew that if it was desired to use a higher voltage in the external circuit without experiencing the deleterious effects of ionization, it was only necessary to exhaust the tube to a higher degree. In view of this, the majority of the Court below on the re-hearing was evidently misled by the language of the Langmuir patent into mistaking a mere difference in degree for a difference in principle.

We can find no other logical conclusion. This is a matter apparent on the reading of the *two* opinions in the Court of Appeals. Certainly, if the Court below is to find differences in the high vacuum of Lilienfeld and the high vacuum of Langmuir, it can, under the testimony of Langmuir quoted by Judge WOOLLEY, be only a difference in degree.

## Conclusion.

For the reasons given above, it is urged that the Petition be granted.

Respectfully submitted,

JOHN F. NEARY,
RAMSAY HOGUET,
MARTIN T. FISHER,
*Of Counsel.*

New York, January 17, 1931.

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We hereby consent to the filing of the foregoing brief.

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